WHAT IS CLAIMED IS:

1. An apparatus for generating an image comprising:

a computer;

a display connected to the computer upon which images from the computer appear; and

a mechanism for producing images with texture that do not have visible grid artifacts, the producing mechanism disposed in the computer.

2. An apparatus as described in Claim 1 wherein the computer has a memory, and the producing mechanism includes software disposed in the memory for producing images with texture that do not have visible artifacts.

3. An apparatus as described in Claim 1 wherein the computer includes an input mechanism through which information can be introduced into the computer.

4. An apparatus as described in Claim 3 wherein the producing mechanism includes a grid.

5. A method for generating images comprising the steps of:

producing the images with texture that do not have visible grid artifacts with the computer; and

displaying the images on a display.

6. A method as described in Claim 5 including the step of introducing information into the computer from which the images are produced.

7. A method as described in Claim 6 wherein the producing step includes the step of using a bit-manipulation to generate a six bit quantity from an integer lattice point i,j,k.

8. A method as described in Claim 7 wherein the producing step includes the step of generating a gradient direction using the six bit quantity.

9. A method as described in Claim 8 wherein the using step includes the step of using the bit-manipulation to generate a 6 bit quantity defined as a lower six bits of a sum:

$$b(i,j,k,0) + b(j,k,i,1) + b(k,i,j,2) + b(i,j,k,3) + b(j,k,i,4) + b(k,i,j,5) + b(i,j,k,6) + b(j,k,i,7)$$

10. A method as described in Claim 6 wherein the producing step includes the step of placing an input point x,y,z onto a simplicial grid; where x, y and z are integers.

11. A method as described in Claim 10 including the step of skewing the input point to:

define skew$((x,y,z) \rightarrow (x',y',z'))$: $s = (x+y+z)/3$ $(x',y',z') = (x+s,y+s,z+s)$.

12. A method as described in Claim 11 including the step of using the skewed input point to determine a surrounding unit cube whose corner vertex with lowest coordinate values is:

$$(i',j',k') = (\text{ floor}(x'), \text{floor}(y'), \text{floor}(z'))$$

13.   A method as described in Claim 12 wherein the producing step includes the step of evaluating each vertex of all 4 vertices of the grid.

14.   A method as described in Claim 5 wherein the producing step includes the step of decomposing a hypercube into n! simplices, where each simplex corresponds to an ordering of an edge traversal of the hypercube from its lowest vertex $(0,0,. . 0)$ to its upper vertex $(1,1. . 1)$, where n is greater than or equal to 3 and is an integer

15.   A method as described in Claim 14 wherein the producing step has a computational complexity of $O(n^2)$.

16.   An apparatus for generating an image comprising:

a computer;

a display connected to the computer upon which images from the computer appear; and

a mechanism for producing images which are visually isotropic, the producing mechanism disposed in the computer.

17.   An apparatus as described in Claim 3 wherein the input mechanism includes a keyboard or modem or DVD drive in which information can be introduced into the computer.

18.   A method for generating images comprising the steps of:

producing the images which are visually isotropic with the computer; and

displaying the images on a display.